

### Abstract of the Disclosure

The invention provides a semiconductor device having stability in device characteristics, in which variation in contact resistance between silicon and poly-silicon or between poly-silicon and poly-silicon is reduced. The invention also provides a method of manufacturing the semiconductor device. In the cleaning process before forming an upper layer poly-silicon film 11, an H<sub>2</sub>O<sub>2</sub> treatment is conducted to form a thin uniform oxide film 20 of about 0.5nm to 10nm in thickness (to the extent of permitting an impurity to diffuse through the film) on the surface of silicon. After forming the upper layer poly-silicon film 11, a removed portion is uniformly formed on the thin uniform oxide film by applying a short time high temperature annealing treatment by RTP (Rapid Thermal Process).